

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (presently amended) A method for indicating defect locations on a composite structure, the method comprising:

electronically accessing positional data upon receipt of a defect signal from a defect detection system, the positional data defining a defect location of a defect on a composite structure; [[and]]

determining whether the defect is unacceptable;

determining whether repair of the defect can be affected using an automated repair system;

determining whether the defect requires manually affected repair; and

automatically causing a light source to direct light at the composite structure to indicate:

the defect location as defined by the positional data;

whether the defect is unacceptable; and

if the defect is determined to be unacceptable, at least one of:

whether repair of the defect can be automatically affected;

and

whether the defect requires manually affected repair.

2. (original) The method of claim 1, wherein the electronically accessing includes extracting the positional data from a part fabrication file, the part fabrication file including numerical control (NC) data for a material placement machine to fabricate the composite structure.

3. (original) The method of claim 2, wherein the electronically accessing includes receiving a signal indicating detection of a defect by an inspection system inspecting the composite structure for defects, and extracting the positional data from the part fabrication file in response to the received signal.

4. (original) The method of claim 3, wherein:

the electronically accessing includes, upon completion of a ply of the composite structure by the material placement machine, accessing the extracted positional data defining defect locations on the completed ply; and

the automatically causing including automatically causing the light source to direct light at the completed ply to indicate the defect locations on the completed ply.

5. (original) The method of claim 1, wherein the automatically causing includes creating a program to automatically generate instructions, in connection with the positional data, for automatically causing the light source to direct light at the composite structure to indicate the defect location.

6. (original) The method of claim 1, wherein the automatically causing includes, upon completion of a ply of the composite structure by a material placement machine, automatically causing the light source to direct light at the completed ply of the composite structure to indicate the defect locations on the completed ply.

7. (original) The method of claim 1, wherein the automatically causing includes automatically causing the light source to direct light at the defect location to illuminate the defect location.

8. (original) The method of claim 1, wherein the light source comprises a laser.

9. (original) The method of claim 8, wherein the automatically causing includes automatically splitting the light emitted by the laser to indicate a plurality of defect locations on the composite structure.

10. (original) The method of claim 1, wherein the automatically causing includes using light to indicate and distinguish among one or more different types of defects.

11. (original) The method of claim 1, wherein the automatically causing includes using light to indicate and distinguish among one or more different categories of acceptance criteria for defects.

12. (currently amended) The method of claim 1, wherein the automatically causing includes having the light source direct light at the composite structure to indicate the defect location at least until the defect at the defect location is repaired.

13. (cancelled)

14. (original) The method of claim 1, wherein the automatically causing includes indicating one or more defect locations within a region on the composite structure by having the light source direct light to indicate the region.

15. (currently amended) A system for indicating defect locations on a composite structure, the system comprising:

at least one light source;

a controller associated with the light source to control operation of the light source;

a computer-readable media including instructions ~~program~~ executable by the controller, ~~the program including for:~~

~~a computer executable module for electronically accessing positional data upon receipt of a defect signal from a composite structure inspection system, the positional data defining a defect location of a defect on a composite structure; [[and]]~~

determining whether the defect is unacceptable;

determining whether repair of the defect can be affected using an automated repair system;

determining whether the defect requires manually affected repair;

and

~~a computer executable module for automatically generating instructions for automatically causing the controller to operate the light source such that the light source directs light at the composite structure to indicate;~~

the defect location as defined by the positional data;

whether the defect is unacceptable; and

if the defect is determined to be unacceptable, at least one

of:

whether repair of the defect can be automatically affected; and

whether the defect requires manually affected repair.

16. (currently amended) The system of claim 15, wherein the computer-readable media further includes instructions executable by the controller further comprising a computer-executable module for extracting the positional data from a part fabrication file including numerical control (NC) data for a material placement machine to fabricate the composite structure.

17. (currently amended) The system of claim 16, wherein the computer-readable media further includes instructions executable by the controller further comprising a computer-executable module for receiving a signal indicating detection of a defect by an inspection system inspecting the composite structure for defects, and wherein the positional data is extracted from the part fabrication file in response to the received signal.

18. The system of claim 17, further comprising wherein the computer-readable media further includes instructions executable by the controller for:

~~a computer-executable module~~ for accessing, upon completion of a ply of the composite structure by the material placement machine, the extracted positional data defining defect locations on the completed ply; and

wherein the controller operates the light source such that the light source directs light at the completed ply to indicate the defect locations on the completed ply.

19. (original) The system of claim 15, wherein the controller operates the light source, upon completion of a ply of the composite structure by a material placement machine, such that the light source directs light at the completed ply to indicate the defect locations on the completed ply.

20. (original) The system of claim 15, wherein the light source comprises a laser.

21. (original) The system of claim 20, further comprising a light-splitting device to split the light emitted by the laser to indicate a plurality of defect locations on the composite structure.

22. (cancelled)

23. (currently amended) The system of claim 15, wherein the computer-readable media further includes instructions executable by the controller further comprising a

~~computer-executable module~~ the program includes ~~a computer-executable module~~ for communicating with a material placement machine fabricating the composite structure.

24. (currently amended) A ~~program comprising~~ computer-readable media having stored thereon instructions executable by a processor for:

~~a computer-executable module~~ for electronically accessing positional data upon receipt of a defect signal from a composite structure inspection system, the positional data defining a defect location of a defect on a composite structure;
[[and]]

determining whether the defect is unacceptable;

determining whether repair of the defect can be affected using an automated repair system;

determining whether the defect requires manually affected repair; and

~~a computer-executable module~~ for automatically generating instructions for automatically causing a light source to direct light at the composite structure to indicate:

the defect location as defined by the positional data;

whether the defect is unacceptable; and

if the defect is determined to be unacceptable, at least one of:

whether repair of the defect can be automatically affected;

and

whether the defect requires manually affected repair.

25. (currently amended) The program of claim 24, wherein the computer-readable media further has stored thereon instructions executable by the controller ~~further comprising a computer-executable module~~ for extracting the positional data from a part fabrication file, the part fabrication file including numerical control (NC) data for a material placement machine to fabricate the composite structure.

26. (currently amended) The program of claim 25, wherein the computer-readable media further has stored thereon instructions executable by the controller ~~further comprising a computer-executable module~~ for receiving a signal indicating detection of a defect by an inspection system inspecting the composite structure for

defects, and wherein the positional data is extracted from the part fabrication file in response to the received signal.

27. (currently amended) The program of claim 26, wherein the computer-readable media further has stored thereon instructions executable by the controller ~~further comprising a computer-executable module~~ for accessing, upon completion of a ply of the composite structure by the material placement machine, the extracted positional data defining defect locations on the completed ply, and wherein the instructions automatically cause the light source to direct light at the completed ply to indicate the defect locations on the completed ply.

28. (cancelled)

29. (currently amended) The program of claim 24, wherein the computer-readable media further has stored thereon instructions executable by the controller ~~further comprising a computer-executable module~~ for communicating with a material placement machine fabricating the composite structure.